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EXAMINER	
KISWANTO, NICHOLAS	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/802,363	SUH ET AL.	
	Examiner	Art Unit	
	Nicholas Kiswanto	3609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/12/2004; 12/21/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 21 - 45 have been renumbered 22 - 46.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 20 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 20 "the step of determining the condition" has not been established in the antecedent, thus making the claimed invention unclear.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 2, 4, 15, 21, 22, 23, 30, and 39 are rejected under 35 U.S.C. 102(a) as being anticipated by Mitsui, Tojo, Akeno (P.G. Pub 2003/0185664), henceforth called "Mitsui".

As to claim 1, Mitsui shows a method for transferring a substrate in a processing system having at least one processing chamber coupled to a transfer chamber housing a robot ([0020], Fig. 1), the method comprising: teaching a robot to move to an exchange position defined in a processing system ([0077]); and correcting motion of the robot to compensate for a shift in the exchange position ([0082]).

As to claim 2, Mitsui shows the step of correcting further comprises: monitoring a condition within the processing system ([0083]); determining the shift in exchange position based on the monitored condition ([0083]); and correcting robot motion to compensate for the determined shift in the exchange position ([0087]).

As to claim 4, Mitsui shows the step of monitoring further comprises sensing a change in state of at least one processing chamber ([0083]).

As to claim 15, Mitsui shows the step of determining further comprises resolving a change in the exchange position based on empirical data ([0087]).

As to claim 21, Mitsui shows the step of correcting further comprises measuring a change in at least one of the position and orientation of at least on processing chamber relative to the transfer chamber; and adjusting motion of the robot to compensate for the detected changes ([0081 – 0086]).

As to claim 22, Mitsui shows the step of correcting further comprises sensing a change in at least one of the position and orientation of at least one processing chamber relative to the transfer chamber; and adjusting motion of the robot to compensate for the sensed changes ([0081 – 0086]).

As to claim 23, Mitsui shows the step of correcting further comprises resolving a change in at least one of the position and orientation of at least one processing chamber relative to the transfer chamber; and adjusting motion of the robot to compensate for the detected changes ([0081 – 0086]).

As to claim 30, Mitsui shows a method for transferring a substrate in a processing system having at least a first processing chamber coupled to a transfer chamber housing a robot ([0020], Fig. 1), the method comprising: teaching the rbot to move to an exchange position defined in the first processing chamber relative to a predefined reference point within the transfer chamber

([0072]); detecting a shift in the exchange position ([0083]); and correcting the taught robot motion to compensate for the shift in the exchange position ([0087]).

As to claim 39, Mitsui shows a method fro transferring a substrate in a processing system having at least a first processing chamber coupled to a transfer chamber housing a robot ([0020]), the method comprising: establishing a predefined reference point within the transfer chamber ([0078]) and an exchange position of the first processing chamber ([0079]); teaching a robot to move to the exchange position ([0077]); monitoring relative positional change between the reference point and exchange position ([0083]); correcting the taught position of the robot in response to the relative positional change, thereby allowing the robot to arrive at the exchange position ([0087]).

5. Claims 42, 43, 44, and 46 are rejected under 35 U.S.C. 102(a) as being anticipated by White, Kurita (#6,577,923), which henceforth shall be called "White".

As to claim 42, White shows a substrate processing system comprising: a transfer chamber (col 3, line 59); a processing chamber coupled to the transfer chamber (col 3, line 59 – 60); a robot disposed in the transfer chamber and adapted to transfer substrates between the transfer chamber and the processing chamber (col 2, line 39 – 42); at least one sensor adapted to provide a metric from which a change in position between the transfer chamber and the

processing chamber may be resolved (col 6, line 24 – 28); and a controller coupled to the robot and adapted to provide instructions for correcting the robot's motions in response to the metric provided by the sensor (col 3, line 60).

As to claim 43, White further shows wherein at least one sensor provides temperature information of the transfer chamber (col 4, line 66 – col 5, line 3).

As to claim 44, White further shows wherein at least one sensor further comprises a plurality of temperature sensors providing metrics indicative of a temperature profile of the transfer chamber (col 4, line 66 – col 5, line 3).

As to claim 46, White further shows wherein at least one sensor provides information indicative of a position of a reference point from which robot motion is referenced (col 6, line 24 – 28).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 3, 5 - 12, 14, 16 - 20, 24 - 29, 31 - 35, 37, 38, 40, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsui (P.G. Pub 2003/0185664) in view of White (#6,577,923).

As to claim 3, Mitsui shows all the elements of claim 2, which claim 3 is dependent on. Mitsui does not show the step of monitoring further comprises sensing a change in temperature within a portion of the processing system. White shows the step of monitoring further comprises sensing a change in temperature within a portion of the processing system (col 4, line 66 – col 5, line 3). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding the step of sensing a change in temperature in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 5, Mitsui shows all the elements of claim 4, which claim 5 is dependent on. Mitsui does not show the step of sensing the change in temperature further comprises sensing a change in state of a second processing chamber. White shows the step of sensing the change in temperature in a second processing chamber (col 4, line 66 – col 5, line 3; col 9, line 11). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding the step of sensing the change in temperature in a second

processing chamber in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 6, Mitsui shows all the elements of claim 2, which claim 6 is dependent on. Mitsui does not show the step of monitoring further comprises sensing a change in state of a second processing chamber different than a first processing chamber having the exchange position defined therein. White shows the step of monitoring further comprises sensing a change in state of a second processing chamber different than a first processing chamber having the exchange position therein (col 4, line 66 – col 5, line 3; col 9, line 11). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding the step of sensing a change in state of a second processing chamber in order to apply the invention to all processing chambers in a processing system, which usually have a plurality of processing chambers.

As to claim 7, Mitsui shows all the elements of claim 2, which claim 7 is dependent on. Mitsui does not show the step of monitoring further comprises detecting a change in temperature of at least one processing chamber. White shows the step of monitoring further comprises detecting a change in temperature of at least one processing chamber (col 4, line 66 – col 5, line 3). It would have been obvious to one of ordinary skill in the art to modify the method

of Mitsui by adding the step of detecting a change in temperature of at least one processing chamber in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 8, White further shows the step of detecting the change in temperature further comprises sensing a change in temperature of a second processing chamber (col 9, line 9).

As to claim 9, White further shows the step of detecting the change in temperature further comprises sensing a change in temperature of a processing chamber different than a processing chamber having the exchange position defined herein (col 9, line 9).

As to claim 10, White further shows wherein the portion of the processing system is a facet of the transfer chamber through which the robot must extend to reach the exchange position (col 4, line 66).

As to claim 11, White further shows wherein the step of sensing the change in temperature further comprises sensing a change in temperature of a different facet of the transfer chamber (col 9, line 9).

As to claim 12, Mitsui shows all the elements of claim 2, which claim 7 is dependent on. Mitsui does not show wherein the step of determining further comprises sensing a change in position of the processing chamber. White shows wherein the step of determining further comprises sensing a change in position of the processing chamber. It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding sensing a change in position of the processing chamber in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 16, Mitsui shows all the elements of claim 15, which claim 16 is dependent on. Mitsui does not show wherein the empirical data is representative of a change in at least one of position and orientation of the processing chamber relative to the transfer chamber due to thermal effects. White shows where in the empirical data is representative of a change in at least one of position and orientation of the processing chamber relative to the transfer chamber due to thermal effects. It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding empirical data representative of a change due to thermal effects in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 17, Mitsui shows all the elements of claim 2, which claim 17 is dependent on. Mitsui does not show wherein the step of determining further comprises resolving a change in the exchange position based on modeled data. White shows wherein the step of determining further comprises resolving a change in the exchange position based on modeled data. It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the step of determining further comprises resolving a change in the exchange position based on modeled data in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 18, White shows wherein the modeled data is representative of a change in at least one of position and orientation of the processing chamber relative to the transfer chamber due to thermal effects (col 9, line 40 – 58).

As to claim 19, Mitsui shows all the elements of claim 2, which claim 19 is dependent on. Mitsui does not show wherein the step of monitoring the condition further comprises tracking time between state changes of at least one processing chamber (col 4, line 53 – col 5, line 7). White shows wherein the step of monitoring the condition further comprises tracking time between state changes of at least one processing chamber. It would have been obvious to one of

ordinary skill in the art to modify the method of Mitsui by adding wherein the step of monitoring the condition further comprises tracking time between state changes of at least one processing chamber in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 20, Mitsui shows all the elements of claim 2, which claim 20 is dependent on. Mitsui does not show wherein the step of determining the condition further comprises accounting for rates of thermal expansion. White shows wherein the step of determining the condition further comprises accounting for rates of thermal expansion. It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the step of determining the condition further comprises accounting for rates of thermal expansion in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 24, Mitsui shows all the elements of claim 23, which claim 24 is dependent on. Mitsui does not show wherein the step of resolving changes further comprises at least one of modeling thermal expansion of the transfer chamber, modeling thermal expansion of the processing chamber, and utilizing empirical data that is representative of relative positions of the processing

chamber relative to the transfer chamber due to thermal effects. White shows wherein the step of resolving changes further comprises at least one of modeling thermal expansion of the transfer chamber, modeling thermal expansion of the processing chamber, and utilizing empirical data that is representative of relative positions of the processing chamber relative to the transfer chamber due to thermal effects. It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the step of resolving changes further comprises at least one of modeling thermal expansion of the transfer chamber, modeling thermal expansion of the processing chamber, and utilizing empirical data that is representative of relative positions of the processing chamber relative to the transfer chamber due to thermal effects in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 25, Mitsui shows all the elements of claim 1, which claim 25 is dependent on. Mitsui does not show wherein the shift in the exchange position is due to a change in the thermal profile of the transfer chamber. White shows wherein the shift in the exchange position is due to a change in the thermal profile of the transfer chamber. It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the shift in the exchange position is due to a change in the thermal profile of the transfer

chamber in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 26, Mitsui shows all the elements of claim 1, which claim 26 is dependent on. Mitsui does not show wherein the shift in the exchange position is due to a change in the thermal profile of at least one processing chamber. White shows wherein the shift in the exchange position is due to a change in the thermal profile of at least one processing chamber. It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the shift in the exchange position is due to a change in the thermal profile of at least one processing chamber in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 27, Mitsui shows a method for transferring a substrate in a processing system having at least a first processing chamber coupled to a transfer chamber housing a robot ([0020], Fig. 1), the method comprising: defining and exchange position of the first processing chamber ([0077]); correcting robot motion to compensate for the shift in the exchange position ([0087]). Mitsui does not show sensing temperature of at least one component of the system that results in a shift in the exchange position; resolving the shift in

exchange position corresponding to the sensed temperature. White shows sensing temperature of at least one component of the system that results in a shift in the exchange position (col 4, line 66 – col 5, line 3); resolving the shift in exchange position corresponding to the sensed temperature (col 9, line 40). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding sensing temperature of at least one component of the system that results in a shift in the exchange position and resolving the shift in exchange position corresponding to the sensed temperature in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 28, White shows wherein the step of sensing further comprises sensing a temperature of at least one facet of the transfer chamber (col 9, line 66).

As to claim 29, White shows wherein the step of resolving further comprises determining a change in at least one of the position and orientation of a facet of the transfer chamber from which the temperature was sensed (col 9, line 17 – 19).

As to claim 31, Mitsui shows all elements of claim 30, which claim 31 is dependent on. Mitsui does not show wherein the step of detecting further comprises sensing a temperature profile of the transfer chamber. White shows wherein the step of detecting further comprises sensing a temperature profile of the transfer chamber (col 4, line 66 – col 5, line 3). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the step of detecting further comprises sensing a temperature profile of the transfer chamber in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 32, Mitsui shows all elements of claim 30, which claim 32 is dependent on. Mitsui does not show wherein the step of detecting further comprises modeling a temperature profile of the transfer chamber based on a change in state of the first processing chamber. White shows wherein the step of detecting further comprises modeling a temperature profile of the transfer chamber based on a change in state of the first processing chamber (col 9, line 40 - 58). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the step of detecting further comprises modeling a temperature profile of the transfer chamber based on a change in state of the first processing chamber in order to account for temperature

variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 33, Mitsui shows all elements of claim 30, which claim 34 is dependent on. Mitsui does not show wherein the step of detecting further comprises modeling a temperature profile of the transfer chamber based on a change in state of a second processing chamber coupled to the transfer chamber. White shows wherein the step of detecting further comprises modeling a temperature profile of the transfer chamber based on a change in state of a second processing chamber coupled to the transfer chamber (col 9, line 8 – 58). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the step of detecting further comprises modeling a temperature profile of the transfer chamber based on a change in state of a second processing chamber coupled to the transfer chamber in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5); and apply such account to the many process chambers that are typical of a processing system.

As to claim 34, Mitsui shows all elements of claim 30, which claim 34 is dependent on. Mitsui does not show wherein the step of detecting further comprises determining a temperature profile of the transfer chamber based on

empirical data. White shows wherein the step of detecting further comprises determining a temperature profile of the transfer chamber based on empirical data (col 9, line 17 - 19). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the step of detecting further comprises determining a temperature profile of the transfer chamber based on empirical data in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 35, Mitsui shows all elements of claim 30, which claim 35 is dependent on. Mitsui does not show wherein the step of detecting further comprises determining a change in at least one of the position and orientation of a facet of the transfer chamber corresponding to a change in the sensed temperature. White shows wherein the step of detecting further comprises determining a change in at least one of the position and orientation of a facet of the transfer chamber corresponding to a change in the sensed temperature (col 9, line 17 - 19). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the step of detecting further comprises determining a change in at least one of the position and orientation of a facet of the transfer chamber corresponding to a change in the sensed temperature in order to account for temperature variations leading to thermal

expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 36, Mitsui shows all elements of claim 30, which claim 36 is dependent on. Mitsui does not show wherein the step of detecting further comprises sensing temperature of the transfer chamber at a plurality of locations. White shows wherein the step of detecting further comprises sensing temperature of the transfer chamber at a plurality of locations (col 9, line 9 - 23). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the step of detecting further comprises sensing temperature of the transfer chamber at a plurality of locations in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 37, Mitsui shows all elements of claim 30, which claim 37 is dependent on. Mitsui does not show wherein the step of detecting further comprises determining a change in at least one of position and orientation of the first processing chamber. White shows wherein the step of detecting further comprises determining a change in at least one of position and orientation of the first processing chamber (col 9, line 9). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the step

of detecting further comprises determining a change in at least one of position and orientation of the first processing chamber in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 38, Mitsui shows all elements of claim 30, which claim 38 is dependent on. Mitsui does not show wherein the step of detecting further comprises determining a change in a position of the reference point defined in the transfer chamber. White shows wherein the step of detecting further comprises determining a change in a position of the reference point defined in the transfer chamber (col 9, line 17 - 19). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the step of detecting further comprises determining a change in a position of the reference point defined in the transfer chamber in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 40, Mitsui shows all elements of claim 39 and a substrate support disposed in the first processing chamber ([0079]). Mitsui does not show detecting a change in lateral position of a substrate support disposed in the first processing chamber. White shows detecting a change in lateral position of a first

processing chamber (col 5, line 8). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding detecting a change in lateral position of a substrate support disposed in the first processing chamber in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

As to claim 41, Mitsui shows all elements in claim 39, which claim 41 is dependent on. Mitsui does not show wherein the step of monitoring the relative positional changes between the reference point and exchange position further comprises detecting a change in lateral position of the reference point of the transfer chamber due to thermal changes of the transfer chamber. White shows wherein the step of monitoring the relative positional changes between the reference point and exchange position further comprises detecting a change in lateral position of the reference point of the transfer chamber due to thermal changes of the transfer chamber (col 9, line 17 – 19). It would have been obvious to one of ordinary skill in the art to modify the method of Mitsui by adding wherein the step of monitoring the relative positional changes between the reference point and exchange position further comprises detecting a change in lateral position of the reference point of the transfer chamber due to thermal changes of the transfer chamber in order to account for temperature variations

leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

8. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over White, Kurita (#6,577,923), which henceforth shall be called "White", in view of Mitsui (P.G. Pub 2003/0185664).

As to claim 45, White shows all elements of claim 42, which claim 45 is dependent on. White does not show wherein at least one sensor provides information indicative of a position of a substrate support disposed within the processing chamber. Mitsui shows wherein at least one sensor provides information indicative of a position of a substrate support disposed within the processing chamber ([0079]). It would have been obvious to one of ordinary skill in the art to modify the system of White by adding wherein at least one sensor provides information indicative of a position of a substrate support disposed within the processing chamber in order to account for temperature variations leading to thermal expansion, which causes the robot device to have difficulty determining the precise position (col 1, line 67 – col 2, line 5).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent #6,556,887 shows a processing system with a transfer robot that corrects its movement after thermal expansion has altered its original motion.

U.S. Patent #6,430,468 shows a centerline reference method.

U.S. Patent #6,516,244 shows a wafer centering method.

U.S. Patent #5,535,306 shows a wafer positioning method based on a center axis.

U.S. Patent #6,510,365 shows a processing system with a plurality of processing chambers with respective exchange positions.

U.S. Patent #6,327,517 shows a processing system with a center finding feature.

U.S. Patent #6,549,825 shows a processing system that corrects a transfer robot's movement after the system state has changed.

U.S. PGPub 2007/0112465 shows processing system that corrects a transfer robot's movement after the system state has changed.

U.S. Patent 7,039,501 shows a processing system with a transfer robot that corrects its movement after thermal expansion has altered its original motion.

U.S. Patent 6,205,870 shows a processing system that uses modeled data to correct transfer robot movement.

U.S. Patent 6,257,045 shows a processing system that uses modeled data to correct transfer robot movement.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Kiswanto whose telephone number is (571)

270-3269. The examiner can normally be reached on Monday - Friday, 8AM - 5PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Smith can be reached on (571) 272-6763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nicholas Kiswanto
6/20/2007

MATTHEW S. GART
PRIMARY EXAMINER
TECHNOLOGY CENTER 3600